"Turning Challenges into Opportunities
One Project at a Time"

Human Performance Technology

Project Example

3rd Class Swim Qualification

NSTC HP Detachment

Winning the HPC Way

Aug 23-25

Innovation Through Data Analysis

Optimizing Naval Warfighting Performance

What is Human Performance?

Human Performance Improvement (HPI) – the identification & removal of barriers that prevent people from achieving top performance

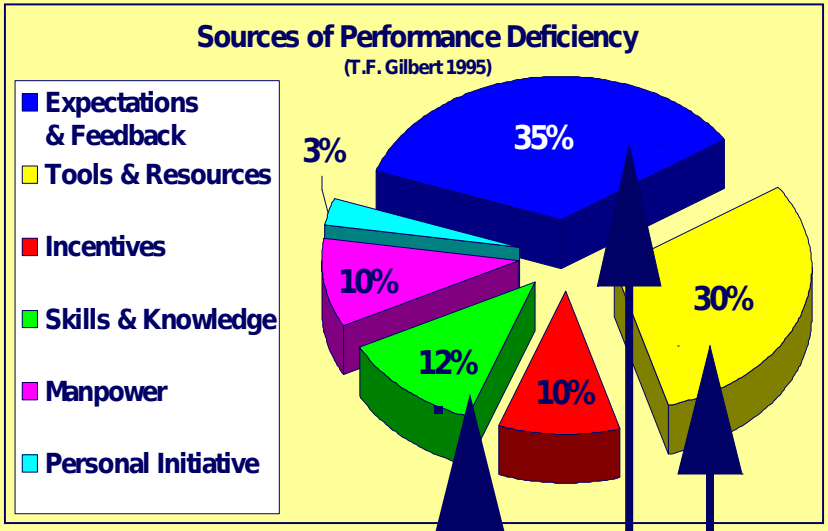
- The systemic & systematic analysis of performance… based on a standardized approach: Mission, Performance & Root Cause Analyses leading to Intervention Selection
  - Directly tied to organizational goals, objectives & “bottom line”
  - Produce “blended solutions” including elements of: Manpower, Engineering design, Training, Requirements, Doctrine, Policy, Systems design and Process revision
  - Results oriented-measurable
  - Cost-effective
  - Comprehensive

What is Human Performance?

- Human Performance addresses all factors that impact the ability of personnel to achieve the desired performance
- Performance deficiencies are evaluated at the individual, team and organizational levels
- Human Performance analyses are typically focused on problems that have resisted traditional solutions…. because they can't be solved by a single discipline

Where the Problems Are

Industry Baseline

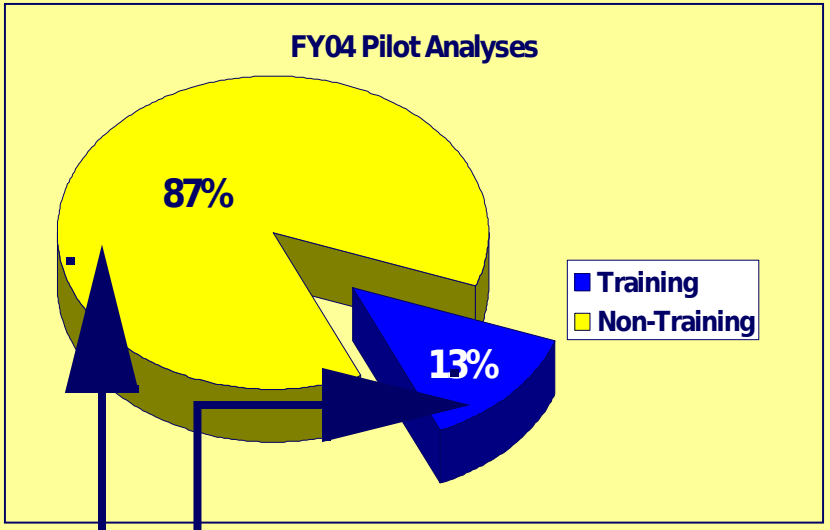


Every year, large companies spend $300-900M *each* hoping to "fix" just 12% of their problems!

The primary root causes:
- **Clear job definition (35%)**
- **Tools and Resources (30%)**

are most often missed!

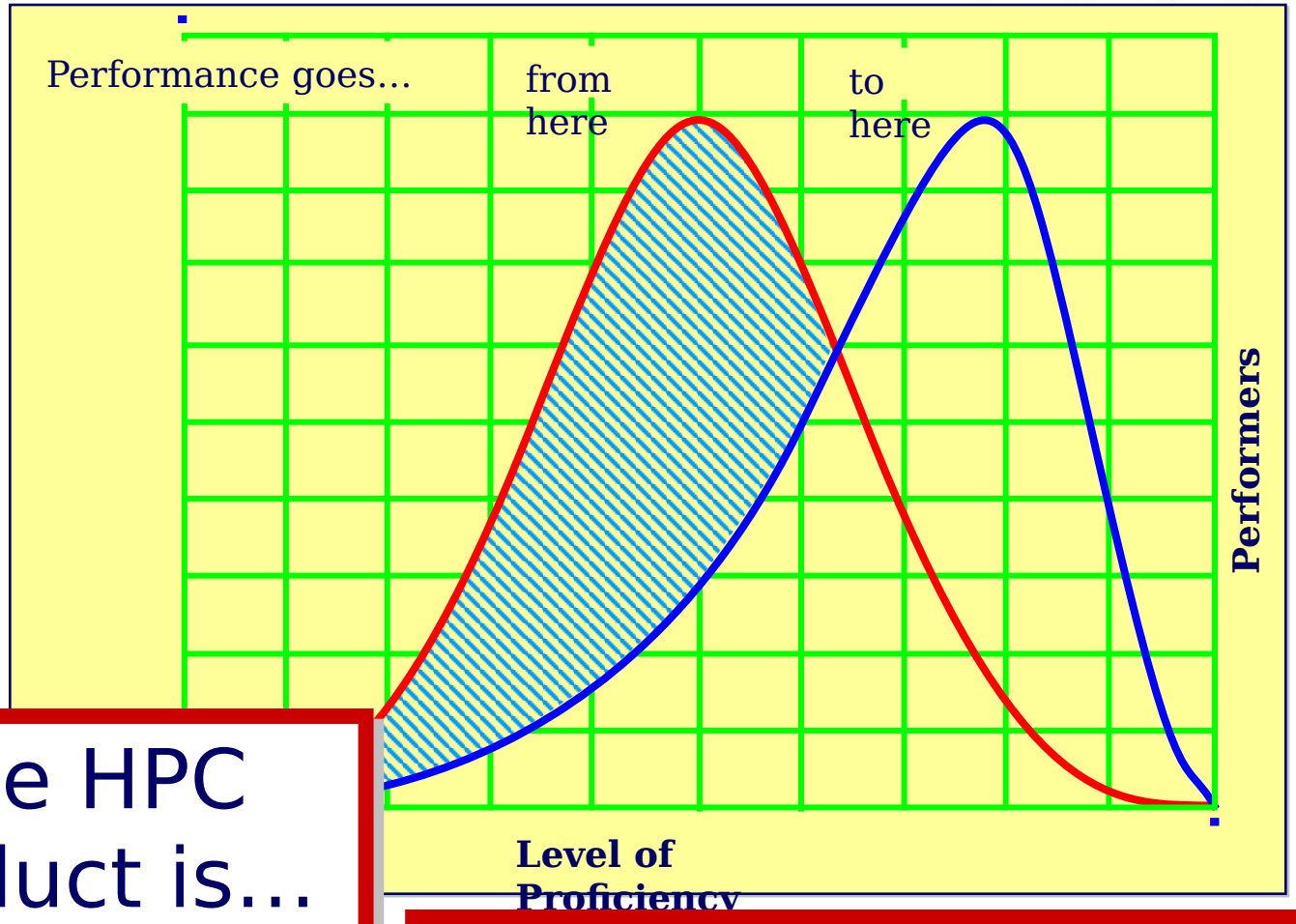
Navy HPI Results



Initial results indicate that of 165 potential interventions, only 21 were actually training solutions

Non-training interventions address:
- **Manpower**
- **Systems**
- **Processes**

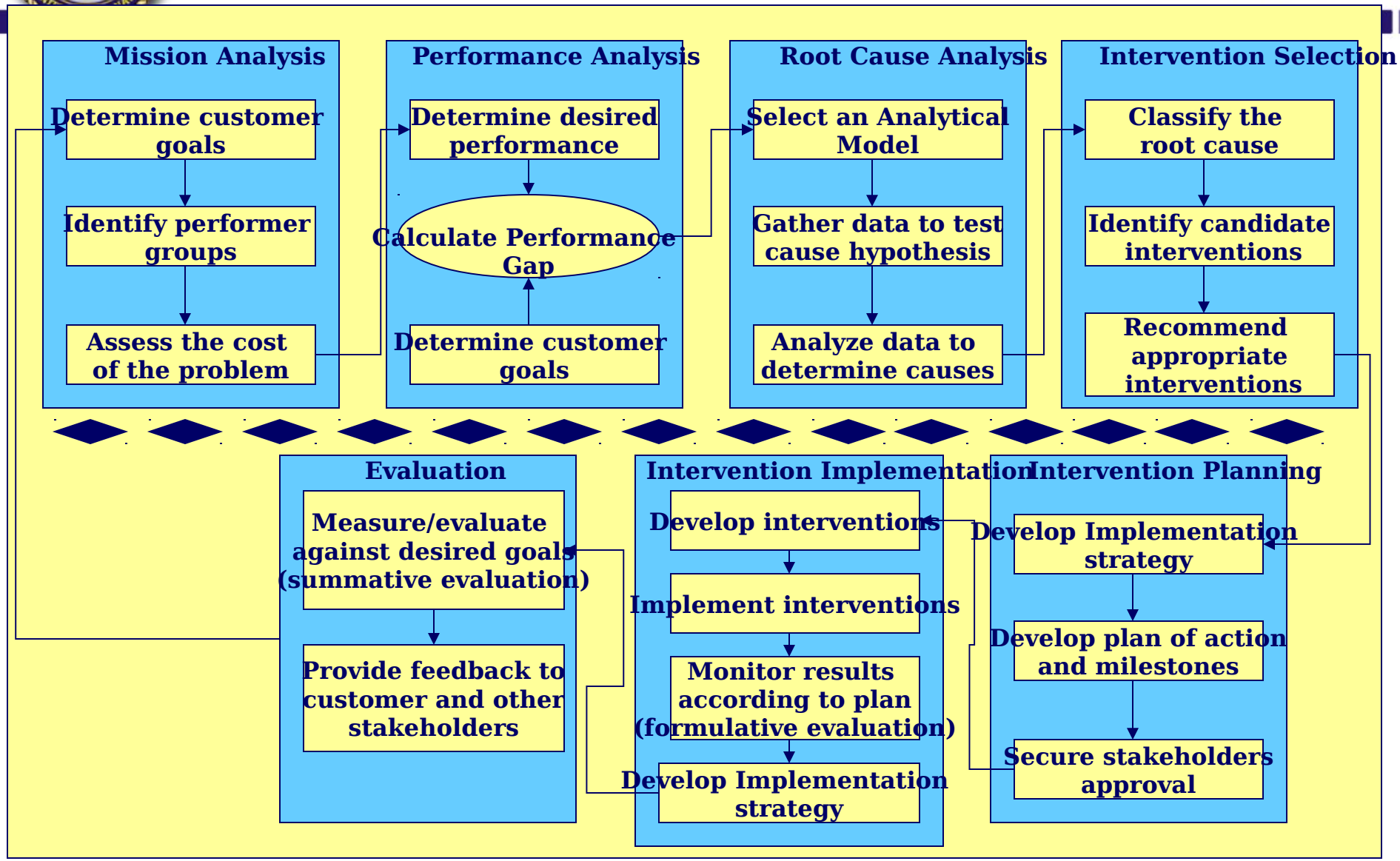
Shifting the Performance Curve



The HPC Product is…

Improved Performance !

HPI Analytical Process



Example Project:

3rd Class Swim Qualification

Mission Analysis

Business goal: ***Recruit Training Command's (RTC) goal is to reduce the number of hours spent in remediation to achieve 3rd Class Swim qualification by 25% within 6 months.***

- **21.1% of total Recruits need remediation lessons to pass the 3rd Class Swim qualification**
- **In 2004, each Recruit spent approximately 14 hours in remediation**
- **Total number of hours spent in remediation in 2004 was 134,050**

Cost of the Performance Issue

- **Estimated Cost:** $1,597,876
- **Number of Recruits Attending:** ~ 9,575 (in 2004)
- **Number of Lessons to Qualify:** ~7 (2 hours per lesson)
- **Cost per Hour of Remediation:** $11.92
- **Calculation of cost:** $11.92 x 14 x 9,575= $1,597,876
  - This is an opportunity cost for the Navy, not an out of pocket cost
  - Intangible opportunity costs:

Performance Analysis

- **Performance Goal:** ***Decrease the average number of swim remediation sessions it takes a Recruit to pass the 3rd Class Swim qualification from 7 sessions to 5 sessions w***

	Average number of remedial lessons	Average hours spent in swim remediation in FY2004
Desired Performance	**5**	95,750
Actual Performance	**7**	134,050
Performance Gap	**2**	38,300

Root Cause Analysis

Overall Findings:

1. Remediation instruction
2. Need for greater opportunity for Recruits to swim
3. Lack of motivation/incentives
4. Swim requirements
5. Recruit preparation prior to joining the Navy

Root Cause Analysis

1. Remediation instruction

- High student to instructor ratio in remedial swim program
- Recruits are not receiving enough individualized attention
- Variability exists in the techniques utilized by different remedial instructors
- Recruits in remediation are at varying levels of ability

Root Cause Analysis

2. Need for greater opportunity for Recruits to swim

- **The current Recruit training schedule is not conducive to learning**
- **Recruits are not attending remediation on a regular basis**

3. Lack of motivation/incentives

- **Lack of motivation/incentive to pass the 3rd Class Swim qualification on the first try**
- **Most Sailors do not have to re-qualify for the 3rd Class Swim qualification**
- **Recruits enter with individual differences such as fear of water, fear of drowning, etc.**

Root Cause Analysis

4. Swim requirements

- **Recruits find it difficult to master the required skills**

5. Recruit preparation prior to joining the Navy

- **Recruits in remediation do not possess the skills necessary to pass the swim test**
- **Inconsistent Delayed Entry Program (DEP)**
- **Some Recruits may not have prior swimming experience**
- **Recruits are unaware of the swim requirement for the Navy**
- **Some Recruiters tell applicants that the Navy will teach them how to swim**

Intervention Selection

Finding 1: Remediation instruction

- **Student to instructor ratio**
- **individualized attention**
- **Variability of remedial instructors**
- **Recruits at varying levels of ability**

Recommendations

- ✓ **Decrease the student to instructor ratio for RSI**
- ✓ **Hire an administrative assistant**
- ✓ **Reduce the number of Recruits present in the small pool at one time**
- ✓ **Further break out skill levels of Recruits**
- ✓ **Reward individual instructors**
- ✓ **Implement and maintain databases**

Approximated Costs

Remediation instruction (finding 1)

- **Hire additional civilian swim instructors**
  - **Cost: $54,000 (total compensation) annually, per instructor**
    - **Total cost: $54,000 X 3 = $162,000**
- **Hire year long contract swim instructors**
  - **Cost: $53,000 (total compensation) annually, per instructor**
  - **Total cost: $53,000 X 3 = $159,000**
- **Hire additional contract support during surge time**
  - **Cost: $17,600 annually ($4,400/ month for 4 months) per instructor**
  - **Total cost: $17,600 X 3 = $52,800**

Approximated Costs Continued

Remediation instruction (finding 1)

- **Hire an administrative assistant, possibly part-time**
  - **Cost: $45,225 (total compensation) annually**
  - **Time for 2 instructors recouped for 4 hours/ day ($61,760)**
- **Reduce the number of Recruits present in the small pool**
  - **Cost: no additional cost to RTC with sufficient instructors**
- **Increase number of remediation levels from 3 to 4**
  - **Cost: no additional cost to RTC with**

Approximated Costs Continued

Remediation instruction (findings 1)

- **Implement and maintain databases to collect and analyze data**
  - **Cost: Developed in-house, approximately $100**
  - **If administrative assistant not hired, intervention requires swim staff time to input information**
  - **Approximately 5 hours a week for an E5, $7000 annually**
  - **If intervention number 2 is implemented, will be part of administrative assistant's job duties, no additional costs incurred**

Intervention Selection

Finding 2: Need for greater opportunity for Recruits to swim

- **Current Recruit training schedule is not conducive to learning**
- **Recruits are not attending remediation on a regular basis**

Recommendations

- ✓ **Ensure scheduling is conducive to learning**
  - **Allow RDCs to begin sending Recruits to swim remediation as soon as possible**
  - **Ensure MTS and pool schedule are in agreement**
- ✓ **Increase opportunities for Recruits to swim**
  - **Recruit Swim Petty Officer**
  - **Increase lesson availability to 3 times per day**

Approximated Costs

Need for greater opportunity for Recruits to swim (finding 2)

- **Allow RDCs to send Recruits to remediation as soon as possible**
  - **Cost: none**
- **Ensure MTS and pool schedule are in agreement**
  - **Cost: none**
- **Increase RDC/Recruit awareness of swim remediation progress, i.e.**
  - **Add swim responsibilities to Recruit Athletic Petty Officer (APO)**
  - **Create a Recruit Swim Petty Officer (SPO) position**
  - **Cost: one-time cost of $500 for insignia**

Intervention Selection

Finding 3: Lack of motivation/incentives

- **Lack of motivation/incentive to pass the 3rd Class Swim qualification on first try**
- **Most Sailors do not have to re-qualify for 3rd Class Swim qualification**
- **Recruits enter with individual differences such as fear of water, fear of drowning, etc.**

Recommendations

- ✓ **Promote Recruits who initially pass the 3rd Class Swim test in combination with passing initial Physical Fitness Assessment (PFA) and DEP test at RTC to an E-2**
  - **Create awareness of this early promotion opportunity in DEP**

Approximated Costs

Lack of motivation/ incentives to pass the test (finding 3)

- **Promote Recruits who pass the 3rd Class Swim test**
  - **Cost: Unlikely to have additional costs incurred at RTC**
    - **If Recruits pass PFA-0 and DEP test, promotion received**
    - **Additional criterion added to existing program will unlikely increase number of Recruits eligible for promotion**
    - **May reduce costs because current Recruits promoted may not also pass swimming**
    - **Total number of Recruits promoted may**

Intervention Selection

Finding 4:Swim requirements	*Recommendations*
• **Recruits find it difficult to master required skills**	✓ **Reexamine the driving factors behind 3rd Class Swim requirements including the stroke, tower jump, prone float, and coverall inflation**

- **Approximated Cost:**
  - **Reexamine the driving factors behind 3rd Class Swim requirements**
  - **Cost: no cost to RTC**

Intervention Selection

Finding 5: Recruit preparation prior to joining the Navy

- **Recruits in remediation do not possess the skills necessary to pass the swim test**
- **Inconsistent Delayed Entry Program (DEP)**
- **Some Recruits may not have prior swimming experience**
- **Recruits are unaware of the swim requirement for the Navy**
- **Some Recruiters tell applicants that the Navy will teach them how to swim**

Recommendations

- ✓ **Findings are not under the direct control of RTC or NSTC**
  - **Potential for future recommendations with CNRC coordination**

Intervention Recommendations

- Each intervention was assessed in terms of cost, feasibility, and impact
- Options were provided that demonstrated the initial implementation cost, the annual recurring cost, as well as the annual opportunity cost reduction (Training time reduction)
- Recommendations were provided to RTC for consideration

Back up Slides

Matrix Summary

A matrix summarizing each intervention according to their respective ranking of cost, feasibility, and impact

Each recommendation was color coded for ease of location. 4A and 4B were highlighted to display low cost, high feasibility, and high impact options

	High	Medium	Low
Cost	**1A– Hire more GS instructors** 1B– Hire contractors (FT)	1C– Hire contractors (PT-surge) 2– Admin assistant	1D– Rearrange schedule 3– Use SEAL pool 4A– 4 remediation levels 4B– Specialized session 5– Instructor reward 6- Database 7A– Send Recruits earlier 7B– Ensure accurate schedule 8A– Swim Petty Officer 8B– Increase lesson availability (3 times/day) 9– Early promotion 10– Swim requirements
Feasibility	4A– 4 remediation levels 4B– Specialized session 5–Instructor reward 6- Database 7A– Send Recruits earlier 7B- Ensure accurate schedule 8A– Swim Petty Officer 9– Early promotion 10– Swim requirements	1A- Hire more GS instructors 1B– Hire contractors (FT) 1D– Rearrange schedule 2– Admin assistant 3– Use SEAL pool 8B– Increase lesson availability (3 times/day)	1C– Hire contractors (PT)
Impact	1A- Hire more GS instructors 1B– Hire contractors (FT) 2– Admin assistant 3– Use SEAL pool 4A– 4 remediation levels 4B– Specialized session	1C– Hire contractors (PT) 1D– Rearrange schedule 5–Instructor reward 8A– Swim Petty Officer 8B– Increase lesson availability (3 times/day) 9– Early promotion	6- Database 7A– Send Recruits earlier 7B- Ensure accurate schedule

Suggested Plans of Action

Certain Recommendations Lend Themselves to being Implemented Together

Intervention Impact

Option A:

Hire more GS instructors

Reduce the number of Recruits present in the small pool

Further break out skill levels of Recruits

-Increase number of remediation levels from 3 to 4

-Assign those needing one-on-one attention to a specific session

-Reward individual instructors who are performing exceptionally well.

-Implement and maintain databases

Ensure scheduling is conducive to learning

-Allow RDCs to begin sending Recruits to swim remediation as soon as possible

-Ensure MTS and pool schedule are in agreement

Increase opportunities for Recruits to swim

-Increase RDC/Recruit awareness of swim remediation progress

-Increase lesson availability to 3 times per day

Promote Recruits who pass the 3rd Class Swim test

Reexamine the driving factors behind 3rd Class Swim requirements

Initial implementation cost: $600

Annual recurring cost: $169,000

Annual Opportunity Cost reduction: $456,536

38300 hours of Recruit training time

Intervention Impact

Option B:

Hire an administrative assistant

Reduce the number of Recruits present in the small pool

Further break out skill levels of Recruits

-Increase number of remediation levels from 3 to 4

-Assign those needing one-on-one attention to a specific session

-Reward individual instructors who are performing exceptionally well.

Implement and maintain databases

Ensure scheduling is conducive to learning

-Allow RDCs to begin sending Recruits to swim remediation as soon as possible

-Ensure MTS and pool schedule are in agreement

Increase opportunities for Recruits to swim

-Increase RDC/Recruit awareness of swim remediation progress

-Increase lesson availability to 3 times per day

Promote Recruits who pass the 3rd Class Swim test

Reexamine the driving factors behind 3rd Class Swim requirements

Initial implementation cost: $600

Annual recurring cost: $45,225

Annual Opportunity cost reduction: $228,268

19150 hours of Recruit training time

Intervention Impact

Option C:

Hire an administrative assistant
Hire more GS instructors
Reduce the number of Recruits present in the small pool
Further break out skill levels of Recruits
-Increase number of remediation levels from 3 to 4
-Assign those needing one-on-one attention to a specific session
-Reward individual instructors who are performing exceptionally well
-Implement and maintain databases

Ensure scheduling is conducive to learning
-Allow RDCs to begin sending Recruits to swim remediation as soon as possible
-Ensure MTS and pool schedule are in agreement
Increase opportunities for Recruits to swim
-Increase RDC/Recruit awareness of swim remediation progress
-Increase lesson availability to 3 times per day
Promote Recruits who pass the 3rd Class Swim test
Reexamine the driving factors behind 3rd Class Swim requirements

Initial Implementation cost: $600
Annual recurring cost: $99,225
Annual Opportunity cost reduction: $456,536
38300 hours of Recruit trainin

Impact Chart

Option	Initial Implementation Cost	Annual Recurring Cost	Annual Opportunity Cost Reduction	Training Time Reduction
A	$600	$169,000	$456,536	38300
B	$600	$45,225	$228,268	19150
C*	$600	$99,225	$456,536	38300

*** Option C provides the lowest cost (initial and recurring) with n**

Gilbert's Model for 3rd Class Swim Root Causes

Performance Drivers (or Causes)	Performance Deficiencies
Data, information, feedback	• Recruits are unaware of the swim requirement for the Navy. • Some Recruiters tell applicants that the Navy will teach them how to swim.
Environment support, resources, tools	• The Recruit Master Training Schedule is not conducive to learning. •Recruits are not attending remediation on a regular basis. •High instructor to student ratio in the remedial swim program. •Recruits are not receiving enough individualized attention. •Variability exists in the techniques utilized by remedial swimmer instructors. •Inconsistent Delayed Entry Program (DEP) standardization. •Some Recruits may not have prior swimming experience.
Consequences, Incentives, rewards	• Lack of incentive/motivation to pass 3rd Class swim qualification on the first try. • Most Sailors do not have to re-qualify for the 3rd Class swim qualification.
Skills and knowledge	•Recruits in remediation are at varying levels of ability. •Recruits in remediation do not possess the skills necessary to pass the swim test.

Intervention Summary

Interventions

1. Decrease the student to instructor ratio for Remedial Swim Instruction from 20:1 to 10:1
   a. Hire additional swim instructors (Can not be implemented)
   b. Hire year round contract swim instructors (Can not be implemented)
   c. Hire contract support during surge months (Can not be implemented)
   d. Rearrange work schedule of current instructors (Can not be implemented)
2. Hire an administrative assistant (Can not be implemented)
3. Reduce the number of Recruits present in the small pool at one time (RTC Will look into)
4. Further break out skill levels of Recruits (RTC Will look into)
   a. Increase number of remediation levels from 3 to 4 allowing for greater separation in level 1
   b. Assign those needing more immediate help to a specific section
5. Reward individual instructors performing exceptionally well (RTC Will look into)

Intervention Summary Cont.

Interventions Cont.

6. Implement and maintain databases to collect and analyze data (Can not be implemented)
7. Ensure scheduling is conducive to learning
   a. Allow RDCs to send Recruits to the pool sooner (Currently being implemented)
   b. Ensure MTS and pool schedule are in agreement (Currently being implemented)
8. Increase opportunities for Recruits to swim (RTC Will look into)
   a. Increase RDC/Recruit awareness of remediation progress (RTC Will look into)
   b. Increase lesson availability to 3 times per day (RTC Will look into)
9. Promote Recruits that pass 3rd Class Swim Qual in conjunction with PFA and DEP test (Can not be implemented)
10. Reexamine driving factors behind the 3rd Class Swim requirements (RTC Will look into)

Several Root causes uncovered were not under the direct control of RTC

Intervention Implementation

- **CAPT Moran has agreed to investigate the following interventions:**
  - **Reexamine driving factors behind 3rd Class Swim requirements**
  - **Reduce number of Recruits present in the small pool at one time (use of Seal pool)**
  - **Further break out skill levels of Recruits**
  - **Reward individual instructors**
  - **Ensure scheduling is conducive to learning**
  - **Recruit Swim Petty Officer**